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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,371	02/25/2002	Dongsheng Li	45106/244246	1943
826	7590	06/26/2008		
ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000			EXAMINER	KAMAL, SHAHID
			ART UNIT	PAPER NUMBER
			3621	
			MAIL DATE	DELIVERY MODE
			06/26/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/082,371	<b>Applicant(s)</b> LI, DONGSHENG
	<b>Examiner</b> SHAHID KAMAL	<b>Art Unit</b> 3621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 13 March 2008.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-14 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### *Status of Claims*

1. This Office Action is responsive to the amendment filed March 13, 2008.
2. Claims 1-12 have been amended.
3. Claims 1-12 are currently pending and presented for examination on the merits.

### **Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. (US Patent No. 6,116,506) ("Matsumoto") in view of Ginter et al. (US Patent No. 6,253,193 B1) ("Ginter").

Referring to claim 1, Matsumoto discloses the following:

- a) configuring, in an electronic deposit (purse), a grey lock mark, which **identifies the state of the last transaction of the electronic deposit (purse)** (see at least abstract, column 1, lines 15-33, column 1, lines 39-67);

**b) after setting the grey lock mark, all operations to the electronic deposit (purse)**

**except resetting the grey lock mark being invalidated** (see at least column 1, lines 39-67, column 6, lines 1-42).

Matsumoto does not expressly discloses setting, **while starting a transaction using the electronic deposit (purse), the grey lock mark and recording parameters of the transaction as a locking card source in the electronic deposit (purse); and validating the recorded locking card source before debiting money from the electronic deposit (purse), and if the recorded parameters are validated, debiting money from the electronic deposit (purse) and resetting the grey lock mark simultaneously** to unlock grey the IC card automatically after successfully completing the debiting operation.

Ginter discloses setting, **while starting a transaction using the electronic deposit (purse), the grey lock mark and recording parameters of the transaction as a locking card source in the electronic deposit (purse)** (see at least abstract & column 235, lines 39-67); and **validating the recorded locking card source before debiting money from the electronic deposit (purse), and if the recorded parameters are validated, debiting money from the electronic deposit (purse) and resetting the grey lock mark simultaneously** to unlock grey the IC card automatically after successfully completing the debiting operation (see at least abstract & column 235, lines 39-67).

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have modified of Matsumoto to include the step(s) taught by Ginter as discussed above in order to allow objects to remain independent of these values.

Referring to claim 2, Matsumoto further discloses storing an encryption key **in a host computer of the distributor who distributes the electronic deposit (purse)**, in order to debit supplementary money from the electronic deposit (purse) and to reset the grey lock mark compulsorily in the electronic deposit (purse), which is being set the grey lock mark, on-line card terminal **by an** on-line mode (see at least column 2, lines 48-67).

Referring to claim 3, Matsumoto further discloses inserting the **electronic deposit (purse) into a transaction terminal** (see at least column 13, lines 41-54, column 14, lines 1-20, column 16, lines 43-67, fig. 4(s11)); authenticating **mutually** (see at least fig. 4(s16) by the **electronic deposit (purse) and the terminal** (see at least abstract, column 2, lines 48-67); **performing a consumption** (see at least fig. 4(s10)); and after the consumption is complete, debiting **appropriate money from the electronic deposit (purse) resetting the grey mark simultaneously** by the terminal (see at least abstract, fig. 7).

Referring to claim 4, Matsumoto further discloses **generating a first locking code by the electronic deposit (purse)** according to the locking card source and **transmitting simultaneously** the locking card source to the **transaction terminal using the electronic deposit (purse)** (see at least figures 7, 11, column 5, lines 47-67, column 10, lines 29-57, column 11, lines 4-37, column 19, lines 29-57); **generating a second locking card code by the terminal in the same way as the electronic deposit (purse)** and **generating a first authentication code according to the second locking code** and sending the **first authentication code to the electronic deposit (purse)** (see at least fig. 16, column 22, lines 1-24); **generating a second**

**authentication code by the electronic deposit (purse) according to the first locking code in the same was as the terminal** (see at least figures 7, 11, column 5, lines 47-67, column 10, lines 29-57, column 11, lines 4-37, column 19, lines 29-57); determining whether the **received** first authentication code and the **generated** second authentication code are identical, and if yes, **setting the grey lock mark** (see at least figures 21, 24, column 7, lines 1-15, column 8, lines 26-67, column 12, lines 1-22, column 12, lines 54-67, column 21, lines 44-63); **generating** a third authentication code according to the second **lock code and** parameters for debiting **money from the electronic deposit (purse) by the terminal**, and sending the **generated** third authentication code and **the** parameters to the **electronic deposit (purse)** (see at least fig. 16, column 22, lines 1-24);

Matsumoto **generating** creating a fourth authentication code **according** to by the IC card with the first **lock code** and the corresponding **received** parameters **by the electronic deposit (purse)** using same mechanism; and determining whether the **received** third authentication code and the **generated** fourth authentication code are identical, and if yes, debiting **money from the** electronic deposit and resetting the grey lock mark simultaneously after debiting successfully.

Ginter discloses **generating** creating a fourth authentication code **according** to by the IC card with the first **lock code** and the **received** parameters **by the electronic deposit (purse)** (see at least column 47, lines 24-67); and determining whether the **received** third authentication code and the **generated** fourth authentication code are identical, and if yes, debiting **money from the** electronic deposit (purse) and resetting the grey lock mark simultaneously after debiting successfully (see at least column 47, lines 24-67).

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have modified of Matsumoto to include the step(s) taught by Ginter as discussed above in order to allow objects to remain independent of these values.

Referring to claim 5, Matsumoto does not generating a fifth authentication code according to the first locking code by the electronic deposit (purse) and sending the fifth authentication code to the terminal; generating a sixth authentication code according to the second locking code by the terminal and determining whether the received fifth authentication code and the generated sixth authentication code are identical, if yes, it means that the recorded locking card source is validated, otherwise, the recorded locking card source is invalidated; and storing the sixth authentication code and parameters for debiting money from the electronic deposits (purses) together as part of a grey record information by the terminal, and sending the grey record information to the host computer of the distributor who distributes the electronic deposit (purse); and if the electronic deposit (purse) is used in any terminal that stores the grey record information, before validating the recorded locking card source, the method further comprising: regenerating the fifth authentication code according to the recorded locking card source by the electronic deposit (purse) and send the fifth authentication code to the terminal.

Ginter discloses generating a fifth authentication code according to the first locking code by the electronic deposit (purse) and sending the fifth authentication code to the terminal (see at least column 47, lines 24-67); generating a sixth authentication code according to the second locking code by the terminal and determining whether the received fifth authentication code and the generated sixth authentication code are identical, if yes, it means that the recorded locking card source is validated, otherwise, the recorded locking card source is invalidated (see at least column 47, lines 24-67); and storing the sixth authentication code and parameters for debiting money from the electronic deposits (purses) together as part of a grey record information by the

**terminal, and sending the grey record information to the host computer of the distributor who distributes the electronic deposit (purse) (see at least abstract & column 235, lines 39-67); and if the electronic deposit (purse) is used in any terminal that stores the grey record information, before validating the recorded locking card source, the method further comprising: regenerating the fifth authentication code according to the recorded locking card source by the electronic deposit (purse) and send the fifth authentication code to the terminal (see at least & abstract column 235, lines 39-67).**

Referring to claim 6, Matsumoto further discloses **generating** a procedure encryption key (SESPK), correlating to at least a pseudo random number (ICC) created temporarily, **in the electronic deposit (purse)** (see at least abstract, figures 7, 11, column 5, lines 47-67, column 10, lines 29-57, column 11, lines 4-37, column 19, lines 29-57).

Referring to claim 7, Matsumoto further discloses the procedure encryption key (SESPK) = 3DES (DPK, DATA), where DPK is a consumption encryption key of the electronic deposit (purse); and DATA is a specific parameter including a pseudo random number (ICC) **temporarily created by the electronic deposit (purse)**, a transaction sequence number of the electronic deposit (purse) (CTC), and the last two bytes of the terminal transaction sequence number (TTC) (see at least abstract, figure 4(S10)).

Referring to claim 8, Matsumoto further discloses sending a terminal transaction sequence number (TTC) to the **electronic deposit (purse) by the terminal** (see at least fig. 10, column 17, lines 37-67); getting a pseudo random number (ICC) and an electronic deposit (purse)

transaction sequence number (CTC) by the electronic deposit (purse) (see at least fig. 10, column 17, lines 37-67); generating creating a first procedure encryption key (SESPK) and recording the parameters of this generating step and also generating and recording a sixth authentication code of this time (see at least fig. 11); sending the pseudo random number (ICC) and the electronic deposit (purse) transaction sequence number (CTC) from the electronic deposit (purse) to the terminal, which has stored a consumption main encryption key (MPK) in its security authentication module (PSAM) (see at least fig. 11, abstract); deriving the electronic deposit (purse) DPK by the security authentication module (PSAM); and (see at least column 17, lines 37-67); and generating a second procedure encryption key (SESPK) by the terminal using the pseudo random number (ICC), the electronic deposit (purse) transaction sequence number (CTC), and the terminal transaction sequence number (TTC) in the same way as the electronic deposit (purse) (see at least column 17, lines 37-67).

Matsumoto does not expressly disclose calculating a first authentication code by the card terminal with the second procedure encryption key (SESPK) .....

Ginter discloses generating the third authentication code by the terminal according to the second procedure encryption key (SESPK), and at least the debit amount, operation date and time, and sending the third authentication code, the second procedure encryption key (SESPK), and at least the debit amount, operation date and time to the electronic deposit (purse) (see at least column 235, lines 39-67); generating the fourth authentication code by the electronic deposit (purse) according to the first procedure encryption key (SESPK), using the same data and algorithm as the terminal (see at least column 235, lines 39-67); determining by the electronic deposit (purse) whether the third authentication code and the fourth authentication

code are identical, and if yes, debiting and **resetting the grey lock mark, and otherwise incrementing an internal error counter and returning an error code without debiting money from the electronic deposit (purse) and resetting the grey lock mark simultaneously** (see at least column 235, lines 39-67); and locking the **electronic deposit (purse)** internally to prevent misuse, when the internal error counter reaches a predetermined number (see at least abstract, column 235, lines 39-67).

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have modified of Matsumoto et al. to include the step(s) taught by Ginter et al. as discussed above in order to allow objects to remain independent of these values.

Referring to claim 9, Matsumoto further discloses wherein the step of setting a grey lock mark an comprises creating a refueling electronic deposit (see at least abstract, column 1, lines 15-33, column 1, lines 39-67).

Referring to claim 10, Matsumoto further discloses wherein said refueling electronic deposit includes the functions of refueling transaction, local transaction **for resetting the grey lock mark and on-line transaction for resetting the grey lock mark** (see at least column 2, lines 48-67).

Referring to claim 11, Matsumoto further discloses wherein said refueling electronic deposit further includes the states of pre-refueling, grey lock and unlocked grey (see at least column 2, lines 48-67).

Referring to claim 12, Matsumoto further discloses wherein said refueling electronic deposit further **comprises** the commands of INITIALIZE FOR REFUEL, LOCK FOR REFUEL, DEBIT FOR REFUEL, INITIALIZE FOR UNLOCK, DEBIT FOR UNLOCK and GET GREY STATUS, wherein the INITIALIZE FOR REFUEL command is used for refueling consumption transaction initialization, the LOCK FOR REFUEL command is used for making grey lock to refueling electronic deposit (purse), the DEBIT FOR REFUEL command is used for local refueling consumption and unlocking grey simultaneously, the INITIALIZE FOR UNLOCK command is used for on-line unlocking and consumption transaction initialization, the DEBIT FOR UNLOCK command is used for on-line unlocking grey transaction and supplementary debiting refueling consumption simultaneously, and the GET GREY STATUS command is used for reading grey lock state and launching local unlocking grey transaction (see at least abstract, column 107, lines 31-67, column 168, lines 4-67, column 224, lines 18-67, column 230, lines 12-34).

*Examiner's Note:*

6. The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as potentially teaching all or part of the

claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

*Response to Arguments*

7. Applicant's arguments filed on March 13, 2008 have been fully considered but they are not persuasive.

As per claim 1, Applicant argues "Matsumoto does not disclose configuring, in an electronic deposit (purse), a grey lock mark, which **identifies the state of the last transaction of the electronic deposit (purse); after setting the grey lock mark, all operations to the electronic deposit (purse) except resetting the grey lock mark being invalidated**" (response page 10). Matsumoto teaches that configuring, in an electronic deposit (purse), a grey lock mark, which **identifies the state of the last transaction of the electronic deposit (purse)** (see at least abstract, column 1, lines 15-33, column 1, lines 39-67); **after setting the grey lock mark, all operations to the electronic deposit (purse) except resetting the grey lock mark being invalidated** (see at least column 1, lines 39-67, column 6, lines 1-42)

Further applicant argues "Ginter does not teach **validating the recorded locking card source before debiting money from the electronic deposit (purse), and if the recorded parameters are validated, debiting money from the electronic deposit (purse) and resetting the grey lock mark simultaneously** to unlock grey the IC card automatically after successfully completing the debiting operation (response pages 10-13)". Ginter teaches that **validating the recorded locking card source before debiting money from the electronic deposit (purse), and if the recorded parameters are validated, debiting money from the electronic deposit**

(purse) and resetting the grey lock mark **simultaneously** to unlock grey the IC card automatically after successfully completing the debiting operation (see at least abstract & column 235, lines 39-67).

***Conclusion***

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahid Kamal whose telephone number is (571) 270-3272. The examiner can normally be reached on MONDAY through THURSDAY between the hours of 8:30 AM and 7 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Fischer can be reached on (571) 272-6779. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300 for Regular/After Final Actions and 571-273-6714 for Non-Official/Draft.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shahid Kamal  
June 20, 2008

/Jalatee Worjloh/  
Primary Examiner, Art Unit 3685